

APPENDIX H

Individual Wetland Descriptions

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This section provides information on each wetland delineated along the East Lake Sammamish Trail study area. Information regarding wetland determination, including soil, vegetation, and hydrologic conditions, is presented. Generalized information on adjacent upland conditions is also provided. The wetlands are presented in their order of occurrence from the north end of the study area in Redmond to the south end in Issaquah. Wetlands that are rated together are described together. For each wetland description, refer to the design maps for the project alternatives (Attachments A and B) for location of wetland boundaries.

Bear Creek Restored Wetland Area

Basin: Bear Creek Basin

Classification: Palustrine Emergent

Ecology Rating: Constructed/Restored Wetland

City of Redmond Rating: Not Rated

Stations: 677.2 to 679

Area Within the Study Area: 0.156 Acre (estimated)

This wetland is a restored wetland associated with the relocated Bear Creek channel. The Washington State Department of Transportation (WSDOT) has implemented the Bear Creek Restoration Project to reroute Bear Creek's channel to the west to accommodate expansion of the SR 520 interchange and improve fish habitat in the channel. The project is located adjacent to approximately 100 feet of the study area, west and south of the Bear Creek bridge. The city of Redmond would classify this wetland under "constructed/restored wetlands," which are not rated.

The WSDOT project included excavation of a new channel and replanting the surrounding area with wetland plant species. During the January 2000 field investigation, up to 12 inches of water inundated much of the restoration area. Based on observations made during the grading phase of the project, most of the soil in this area appears to meet hydric criteria. Wetland delineations or soil excavations were not made in this constructed/restored area. It appears restored wetlands occur within 25 feet of the former railbed for approximately 75 feet along the length of the railbed west of the Bear Creek bridge.

During the February 2004 field effort, dominant species observed included planted willows and Nootka rose, salmonberry, and reed canarygrass. Black cottonwood was also present. Adjacent upland vegetation was dominated by a planting mixture of Douglas-fir, Sitka spruce, snowberry, oceanspray, rose, and Himalayan blackberry.

Wetlands 34A and 34C/D

Sub-basin: Panhandle

Classification: Palustrine Forested and Emergent

Ecology Rating: Category I, III

City of Redmond Rating: Type I, III

Data Plots: 1, 57, and 58

Stations: 598.2 to 618.8

Area within the Study Area: 0.871 Acre

This expansive wetland system occurs at the north end of Lake Sammamish. The wetland is protected as part of King County's Marymoor Park and is mapped by King County's Wetland Inventory as the Sammamish River Wetland 4 (King County 1991).

The wetland encompasses approximately 100 acres extending from East Lake Sammamish Parkway to the Sammamish River head, south to the Lake Sammamish shoreline and north to adjacent fields. Near the lake and the river, shrub communities are dominated by Sitka and Pacific willow. Cattails are common waterward of the shrub community. Other portions of the wetland have extensive areas of reed canarygrass. Areas of open water and aquatic bed occur in a few locations.

In the vicinity of the study area, Wetland 34A lies along the west side of the railbed, while Wetland 34C/D is distributed along the east side of the railbed between the railbed and the East Lake Sammamish Parkway road prism. A 10-foot-wide ditch runs through Wetland 34C/D.

The two wetland areas are functionally and hydrologically connected. Along the east side of the railbed, hydrology is supported by groundwater discharge. Along the west side, hydrology results from surface runoff and groundwater.

In Wetland 34A, the area near the railbed was inundated with up to 4 feet of water during the November 1999 field investigation. During the January 2000 field investigation, water depths near the railbed had receded to 4 to 10 inches. Water in the sample pit was at the surface at that time.

During the January 2000 field investigation, approximately 50 percent of Wetland 34C/D was inundated with up to 15 inches of standing water. The standing water contained an abundant rusty biofilm throughout. Free water was at or a few inches below the surface in this area during the January investigation.

On the east side of the railbed, the soil is mapped as Alderwood gravelly sandy loam, while on the west side of the bed and for most of the wetland area, Seattle muck is mapped. The soil in Wetland 34A appears to be Seattle muck and is black (10 YR 2/1) organic material to at least 16 inches. Soil in Wetland 34C/D was a very dark grayish-brown (2.5Y 3/2) sandy loam over very dark grayish-brown (10YR 3/2) gravelly sandy loam with dark yellowish-brown (10YR 4/6 and 6/4) mottles. The organic soil in Wetland 34A and the low chroma with mottles in Wetland 34C/D indicate these are hydric soils.

Wetland 34A is forested with mature black cottonwood and Oregon ash. The understory has salmonberry with red alder in some areas. Where sunlight reaches the forest floor, reed canarygrass is dominant. Soft rush, small-fruited bulrush, and an unidentified sedge occur in patches. Reed canarygrass with Himalayan blackberry dominate vegetation in Wetland 34C/D. A few red alder and black cottonwood seedlings occur intermittently. Also occurring occasionally are scouring rush, giant horsetail, evergreen blackberry, and lady fern.

Adjacent upland vegetation occurs on the East lake Sammamish Parkway road prism in this area and consists of bigleaf maple, red alder saplings, Himalayan blackberry, swordfern, beaked hazelnut, and reed canarygrass. A few young Douglas-firs are dispersed along on the road prism slopes.

Wetlands 34A and 34C/D were delineated based on hydric soil, wetland hydrology, and wetland vegetation.

Wetland 34E

Sub-basin: Panhandle

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plot: 61, 101

Stations: 588.3 to 589.3

Area Within the Study Area: 0.021 Acre

Wetland 34E occurs between the East Lake Sammamish Parkway and the east side of the railbed.

Wetland hydrology in the area is supported by groundwater discharge. Water draining from the wetland drains north in the right-of-way ditch then enters a culvert, crosses beneath the railbed, and flows to the lake. Approximately 10 percent of the area was inundated, and the remaining portions were saturated to the surface during the field investigation.

Soil in this area is mapped as non-hydric Alderwood gravelly sandy loam; however, field observations indicate the area contains hydric soils. The soil in the wetland is a very dark gray (10YR 3/1) sandy loam with dark yellowish-brown (10YR 3/4) mottles to 16 inches.

The dominant vegetation is reed canarygrass with minor components of bentgrass and small-fruited bulrush. The wetland margins are lined with Himalayan blackberry.

Upland vegetation in the vicinity of the wetland consists of bigleaf maple and Pacific madrone trees. Beaked hazelnut, red alder saplings, reed canarygrass, and Himalayan blackberry occur in the understory.

Wetland 34E was delineated based on the presence of hydric soil and wetland hydrology. Reed canarygrass extends outside of the wetland boundary and thus was not used for delineation.

Wetland 34F

Sub-basin: Panhandle

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plot: 62

Stations: 580.6 to 581.0

Area Within the Study Area: 0.016 Acre

Wetland 34F is located on the west side of the railbed. The wetland is formed on a level area and slopes to the lake, and an unnamed stream flows through the wetland. The eastern edge of the wetland occurring in the study area was delineated; however, the wetland extends outside the study area. The wetland is rated Class 3 based on size and the presence of one non-forest vegetation class.

Wetland hydrology is maintained by seasonally high groundwater and flow from the small stream. The soil in the wetland was saturated to the surface, and water up to 6 inches deep was present in the stream. Some areas were inundated with up to 1 inch of water.

Soil in the area is mapped as Alderwood/Kitsap complex. In the wetland, the cobbly, loamy sand surface soil is dark grayish-brown (10YR 4/2) with dark gray (5YR 4/1) mottles. The gravelly silt loam subsurface soil is dark gray (5YR 4/1) with distinct dark yellowish-brown (10YR 4/4) mottles. Hydric indicators include mottles and low chroma matrix colors.

Wetland vegetation in the area is primarily reed canarygrass with small amounts of Himalayan blackberry. Also present are purple loosestrife, yellow iris, Nootka rose, and Pacific ninebark.

Adjacent upland vegetation includes black cottonwood and bigleaf maple trees along with Scots broom, beaked hazelnut, salal, and Himalayan blackberry. Some adjacent filled areas along the lakeshore support mixed grasses on fill.

Wetland 34F was delineated based on hydric soil, wetland hydrology, and wetland vegetation.

Wetland 34G

Sub-basin: Panhandle

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plot: 63

Stations: 575.8 to 575.9

Area Within the Study Area: 0.018 Acre (all)

Wetland 34G is located in a 30-foot-wide swale between the railbed and East Lake Sammamish Parkway. Wetland hydrology results from groundwater discharge along the base of the East Lake Sammamish Parkway road prism, from seasonal high groundwater, and from runoff directed to the wetland from a culvert beneath East Lake Sammamish Parkway. Approximately 10 percent of the area was inundated with shallow water, and other areas had soils saturated to the surface during the January 2000 field investigation.

The area is mapped as very steep Alderwood/Kitsap complex. The soil in the wetland was dark gray (2.5Y 4/1) silt loam with dark yellowish-brown (10YR 4/4) mottles. The soil contained high amounts of organic matter. Hydric indicators present include low chroma and mottles, and high organic matter content.

Overstory vegetation in the wetland had been recently disturbed by removal of red alder and black cottonwood trees (the tree tops were scattered across the area). The margins of the cut-over area are bordered by thick cover of Himalayan blackberry and reed canarygrass.

Reed canarygrass, evergreen blackberry, Himalayan blackberry, snowberry, and Scots broom dominate adjacent upland vegetation. A thicket of black cottonwood and red alder saplings (some of which have been recently cut down) grows west of the wetland and railbeds. Soil in the adjacent upland had dark grayish-brown (10YR 4/2) matrix colors without mottles.

Wetland 34G was delineated based on the presence of wetland hydrology and hydric soil. Vegetation was not used for delineation because of recent clearing and because reed canarygrass and Himalayan blackberry occur in the upland and wetland areas.

Wetland 33A

Sub-basin: Panhandle

Classification: Palustrine Forested

Ecology Rating: Category III

City of Sammamish Rating: Class 2

Data Plot: 3

Stations: 556.2 to 557.6

Area Within the Study Area: 0.023 Acre

Wetland 33A is on a slope contiguous with the lakeshore and is located on the west side of the railbed north of Weber Point. The wetland is rated Class 2 because it has a forested vegetation class.

Wetland hydrology results from groundwater discharge and local area runoff. Approximately 30 percent of the wetland was inundated with up to 12 inches of water, and the remaining area had soil saturated to the surface during the December 1999 field investigation.

Soil in this area is mapped as Alderwood gravelly sandy loam. Soil in the wetland consists of 10 inches of very dark gray (10YR 3/1), partially decomposed organic material over black (10YR 2/1) cobbly silt. A strong sulfidic odor was present during the December 1999 field investigation.

Near the railbed, Oregon ash and weeping willow form an overstory, with Pacific ninebark and Himalayan blackberry in the shrub layer. Eight large black cottonwood trees form the overstory along the lake, where reed canarygrass and giant horsetail are common in the understory. A portion of the wetland is dominated by Japanese knotweed.

Upland areas adjacent to the wetland are dominated by ornamental trees, shrubs, and lawns.

Wetland 33A was delineated based on hydric soil, wetland hydrology, and wetland vegetation.

Wetland 33B

Sub-basin: Panhandle

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Not Rated

Data Plot: 65

Stations: 555.8 to 557.7

Area Within the Study Area: 0.022 Acre (all)

Wetland 33B is located on the East Lake Sammamish Parkway road prism north of Weber Point. The wetland is a small area (less than 2,500 square feet) that includes the road prism slope and adjacent ditch.

Groundwater discharge and drainage from a culvert beneath East Lake Sammamish Parkway maintained wetland hydrology. During the field investigation, the culvert was partially buried. Stormwater runoff from the area drains into the ditch and flows north to a culvert that flows west under the railbed. The water is piped from this point to the lake. Soils were saturated to the surface during the field investigation.

Soil in the area is mapped as Alderwood gravelly sandy loam. The soil in the wetland is very dark gray (10YR 3/1) gravelly loam with a 3-inch organic layer overlying black (10YR 2/1) gravelly loam to 16 inches. Low chroma and organic matter accumulation indicate hydric soil is present.

Wetland vegetation is dominated by reed canarygrass and Himalayan blackberry. Also present in smaller amounts are small-fruited bulrush and Watson's willowherb. Portions of the vegetation are buried beneath yard waste and other debris.

Adjacent upland vegetation consists of Himalayan blackberry and reed canarygrass. Mowed turf and ornamental trees and shrubs are also abundant.

The presence of hydric soil and wetland hydrology were used to delineate Wetland 33B. Vegetation was not always indicative of wetland boundaries because similar types extend across the wetland boundary into adjacent uplands.

Wetlands 32A and 32B

Sub-basin: Panhandle

Classification: Palustrine Scrub-Shrub and Emergent

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plots: 4 and 5

Stations: 529.3 to 538.5

Area Within the Study Area: 0.463 Acre (all)

Wetlands 32A and 32B are located on the east side of the railbed with the eastern wetland boundary formed by the base of the East Lake Sammamish Parkway road prism. The wetlands are rated Class 3 because it is less than 1 acre in size and has two vegetation classes.

Tributary number 0143D enters the central portion of the wetland, flows north in a ditch, and then flows west, draining to the lake through a culvert beneath the railbed. A smaller unnamed stream enters the north end of the wetland and flows south to join with Tributary number 0143D. Tributary number 0143E enters the south end of the wetland and flows north to a second culvert and drains beneath the railbed to the lake.

Wetland hydrology results from local area runoff and a seasonally high groundwater table, which appears to be maintained by the two streams. Up to 50 percent of the area was inundated with up to 16 inches of water during the November 1999 field investigation. Water was flowing in both streams and in the adjacent ditch.

Soil in this area is mapped as Kitsap silt loam. The wetland soil is very dark gray (10YR 3/1) loamy sand or loam to 16 inches. The mineral soil has high organic matter content. The low chroma colors indicate hydric soils.

Reed canarygrass and Himalayan blackberry dominated the vegetation. Small-fruited bulrush and woolgrass are locally dominant. Also present are a few red alder and black cottonwood seedlings, soft rush, and lady fern. The ditch supports small duckweed and watercress. Reed canarygrass and scouring rush are the dominant vegetation in a small section of the wetland south of Tributary number 0143E.

Adjacent upland vegetation is dominated by bigleaf maple and Pacific madrone trees. Also present are red alder seedlings and saplings, with Himalayan blackberry and reed canarygrass in the understory.

Wetlands 32A and 32B were delineated based on hydric soil, wetland hydrology, and wetland vegetation.

Wetland 31A

Basin: Panhandle

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Not Rated

Data Plot: 44

Stations: 487.7 to 488.8

Area Within the Study Area: 0.032 Acre

Wetland 31A is located on the east side of the railbed in the Sammamish Springs area. Local topography in this area consists of the East Lake Sammamish Parkway road prism, which is located directly adjacent to the railbed, and a level area below the railbed that gently slopes to the lake in 200 feet. Wetland 31A is located on the road prism and includes the ditch adjacent to the railbed.

Wetland hydrology is supported primarily by groundwater discharge. Just beyond the northern wetland boundary, the area on the road prism is covered with riprap, likely to prevent further slumping of the slope onto the railbed. During the January 2000 field investigation, water was heard flowing beneath these rocks, presumably from groundwater discharge or a buried culvert. Tributary number 0143I drains from a culvert in the road prism located just north of the northern edge of the riprap. Wetland 31A drains north in a ditch and joins this tributary. The stream enters a culvert and is piped to the lake. During the field investigations, free water was present in soil excavations from 0 to 9 inches below the surface, and water was flowing in the ditch. The wetland area is less than 2,500 square feet, and thus the wetland is not rated.

Soil in this area is mapped as Kitsap silt loam. Surface soil in the wetland consists of very dark gray (7.5YR 3/1) gravelly sandy loam with a high organic content. The subsoil consists of mixed textures and generally starts at 4 inches with dark gray (5Y 4/1) coarse sandy loam and in some portions is a gleyed silty loam from 4 to 6 inches below the surface.

Reed canarygrass, giant horsetail, and lady fern are the dominant plant species in most of the wetland, with cattail and soft rush growing in small patches. Water in the ditch supports water-starwort, small duckweed, and watercress. Also present are small patches of woolgrass and other sedges. A 10- by 10-foot area of shrub vegetation has established on a small bench in the road grade and supports salmonberry and lady fern. A few red alder and Oregon ash saplings grow near East Lake Sammamish Parkway.

Upland vegetation in this area is forested or shrub. Common overstory components include bigleaf maple and Douglas-fir. Himalayan blackberry is common or dominant in the understory. Some areas have scouring rush as a dominant portion of the understory vegetation. Soils range through gravelly loamy sand and sandy loam to loam, and have bright chroma (10YR 3/3) matrix without mottles.

Wetland 31A was delineated based on the presence of hydric soils and wetland hydrology. In general, the dominant vegetation communities extend the wetland boundaries and were not indicative of wetlands.

Wetland 31C

Sub-basin: Panhandle

Classification: Palustrine Emergent

Ecology Rating: Category IV

City of Sammamish Rating: Not Rated

Data Plot: 46

Stations: 481.9 to 482.5

Area Within the Study Area: 0.18 Acre (all)

Wetland 31C lies along the toe and lower slope of the East Lake Sammamish Parkway road prism and approximately 20 feet east of the east side of the railbed.

Wetland hydrology is maintained by groundwater discharge from upslope areas. During the January 2000 field investigation, free water was 0 to 12 inches below the surface. Soils were saturated throughout the area. Within the wetland, water collects in a drainage ditch and combines with water draining from East Lake Sammamish Parkway. This flow is conveyed through a culvert beneath the railbed to the lake.

Soil in this area is mapped as Kitsap silt loam. The silt loam soil is very dark grayish-brown (10YR 3/2) to 5 inches overlying a gleyed, dark greenish-gray (5GY 4/1) sandy loam to at least 16 inches.

The dominant wetland vegetation is reed canarygrass and Himalayan blackberry. A large bigleaf maple partially shades the wetland from the bank above. Also present are small amounts of beaked hazelnut and giant horsetail.

Upland vegetation in the area includes bigleaf maple and black cottonwood with Himalayan blackberry and reed canarygrass in the understory. Soils in adjacent upland areas are gravelly sandy loam with bright chroma.

Wetland 31C was delineated based on the presence of hydric soils and wetland hydrology. The dominant vegetation (reed canarygrass and Himalayan blackberry) extends outside the wetland boundaries in several areas and was not indicative of wetland conditions.

Wetland 31D

Sub-basin: Panhandle

Classification: Palustrine Forested

Ecology Rating: Category III

City of Sammamish Rating: Class 2

Data Plot: 47

Stations: 470.3 to 470.6

Area Within the Study Area: 0.003 Acre

Wetland 31D is located on a slope on the west side of the railbed and is just north of the Inglewood Hill Road. The west edge of the wetland boundary occurs near the study area boundary. The wetland lies largely outside the study area. Total wetland area is approximately 0.117 acre and includes the lakeshore. The wetland is rated Class 2 because it has a forested vegetation class.

Within the wetland, Tributary number 0143K flows from a culvert beneath the railbed to the lake. Wetland hydrology is maintained by throughflow and overbank flow from the stream and from a seasonally high groundwater table. The area was saturated to the surface during the January 2000 field investigation.

The soil in this area is mapped as Kitsap silt loam. The wetland soil is black (10YR 2/1) silt loam to 16 inches and is high in organic matter. The surface soil transitions at approximately 8 feet from the lake edge to gravelly sands.

Wetland vegetation is dominated by black cottonwood and Oregon ash with slough sedge and salmonberry in the understory.

Upland vegetation consists of snowberry, Himalayan blackberry, and mixed grasses.

Wetland 31D was delineated along the study area boundary based on hydric soil, wetland hydrology, and wetland vegetation.

Wetland 30B

Sub-basin: Panhandle

Classification: Palustrine Scrub-Shrub

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plot: 6

Stations: 456.8 to 461.0

Area Within the Study Area: 0.258 Acre

Wetland 30B is associated with Tributary number 0143L. The area lies between the railbed and the toe of the East Lake Sammamish Parkway road prism in a 30-foot-wide depression. A small portion of the railbed is included. The wetland is rated Class 3 because it is less than 1 acre in size and lacks forested vegetation.

Tributary number 0143L drains into the south end of the wetland, splits, and flows north and south through the wetland. The stream flows into culverts beneath the railbed and to the lake.

Hydrology in the area is supported by groundwater discharge, throughflow, and overbank flow from the stream. During the December 1999 field investigation, the area was saturated to the surface in all parts; approximately 30 percent of the area was inundated with up to 12 inches of water. The portion on the railbed had standing water to 3 inches in pools, and soils were saturated to the surface throughout.

Soil in the area is mapped as Kitsap silt loam. The wetland soil is black (10YR 2/1) organic material to 16 inches. The soil had a sulfurous odor during the December 1999 field investigation. On the railbed, the soil has up to 8 inches of black muck material overlying very gravelly black silt.

Dominant wetland vegetation includes salmonberry, Himalayan blackberry, and reed canarygrass. Soft rush, woolgrass, giant horsetail, American speedwell, and lady fern are locally dominant. A small portion of the area has forest overstory of Oregon ash and red alder trees.

Upland vegetation includes forest and shrub. Common forest species include Pacific madrone, red alder, and bigleaf maple. Shrubs include Himalayan blackberry and red elderberry.

Wetland 30B was delineated based on hydric soil, wetland hydrology, and wetland vegetation.

Wetland 29B

Sub-basin: Panhandle

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Not Rated

Data Plot: 48

Stations: 454.5 to 455.1

Area Within the Study Area: 0.020 Acre

Wetland 29B is a small wetland largely confined to a front yard on the west side of the railbed.

Free water was found at 5 inches in the sample pit and ranged from 0 to 12 inches throughout the area. All of the area was saturated to the surface. This hydrology results from seasonally high groundwater. The wetland appears to drain to the lake through a curtain drain beside the house.

The soil is mapped as Alderwood/Kitsap complex. In wetland, the soil is black silt loam to 4 inches over black gravelly silt loam to 12 inches. The subsoil is dark gray loamy sand with yellowish-brown mottles to 16 inches. The surface layers have high organic matter content.

Most of the area is mowed; however, in addition to grasses, there are small-fruited bulrush, daggerleaf rush, and water foxtail. Other grasses present include bentgrass, bluegrass, and reed canarygrass. Giant horsetails and creeping buttercup are also common near the railbed.

The upland in this area consists of the railbed and adjacent maintained yards.

Wetland 29B was delineated using soil and hydrology. Vegetation was not used because it generally extended outside of the wetland boundary.

Wetland 29C

Sub-basin: Panhandle

Classification: Palustrine Forested

Ecology Rating: Category III

City of Sammamish: Class 2

Data Plot: 49

Stations: 448.9 to 450.5

Area Within the Study Area: 0.058 Acre

Wetland 29C is located on the west side of the railbed and includes the area from the toe of the bed to the lake margin. A small, unnamed stream drains through the southern end of the area from beneath the railbed. The wetland is rated Class 2 because it has a forested vegetation class.

Hydrology is supported by groundwater discharge. An unnamed tributary flows into the area from a culvert beneath the railbed but does not provide significant hydrological support. The area was saturated to the surface in all parts during the January 2000 field investigation. Free water was 5 inches below the surface in the soil excavation.

Soil in this area is mapped as Alderwood/Kitsap complex. In the wetland, the organic soil is black and has partially decomposed organic material to least 24 inches.

Oregon ash trees form the overstory, with minor amounts of red alder also present. The shrub layer includes salmonberry, Himalayan blackberry, twinberry, Pacific ninebark, and red osier dogwood. In the understory, lady fern and giant horsetail are dominant. Scouring rush and reed canarygrass grow on the railbed slope. Four standing dead trees show evidence of habitat for pileated woodpeckers, and one woodpecker was observed during the January 2000 field investigation.

The upland in this area includes maintained vegetation, areas of fill, and home construction. Water entering the wetland appears to originate in a series of collection drains located in the adjacent driveways, parking areas, and access roads.

Wetland 29C was delineated using soil, hydrology, and vegetation.

Wetland 28A

Sub-basin: Panhandle

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plot: 7

Stations: 445.7 to 447.5

Area Within the Study Area: 0.098 Acre

Wetland 28A is located mainly adjacent to the east side of the railbed, but a small portion extends onto and west of the railbed. Local topography in this area includes steep slope down to East Lake Sammamish Parkway, then a small level area upon which sit East Lake Sammamish Parkway, parking areas, and the railbed. Houses line the lakefront below the bench. The wetland lies on a short, shallow slope and includes a ditch and a small unnamed stream. The east, south, and north wetland boundary is defined by gravel parking areas.

Hydrology in this area results primarily from groundwater discharge that drains to the adjacent ditch flowing into a small unnamed stream in the north end of the wetland. The stream does not appear to provide significant hydrology. The ditch had 12 inches of standing water, and the soil was saturated to the surface throughout the area during the December 1999 field investigation. Free water was 10 inches below the surface in the sample excavation.

Soil in the area is mapped as Alderwood/Kitsap complex. In the wetland, dark grayish-brown (10YR 4/2) gravelly sandy loam surface soil is 10 inches deep and is underlain by at least 6 inches of gray (2.5Y 5/1) gravelly sandy loam with distinct mottles of dark yellowish-brown (10YR 4/6). A sulfidic odor was present in the soil. Low chroma matrix with mottles and reduced sulfur indicate that this is a hydric soil.

Dominant vegetation includes reed canarygrass and Himalayan blackberry. Soft rush, small-fruited bulrush, watercress, bitter dock, and creeping buttercup occur in distributed patches. A few Pacific willow shrubs occur along the eastern edge of the area. The water in the ditch supports American speedwell, watercress, and small duckweed.

Upland vegetation consists of maintained lawns and gardens in this area. Gravel and asphalt drives and parking areas surround the wetland.

Wetland 28A was delineated using soil, hydrology, and vegetation indicators.

The southern portion (50 feet by 50 feet) adjacent to the east side of the rail embankment was filled by adjacent landowners in 2002 to be used for parking.

Wetland 28B

Sub-basin: Panhandle

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Not Rated

Data Plot: 66

Stations: 433.3 to 433.8

Area Within the Study Area: 0.020 Acre (all)

Wetland 28B is located on the East Lake Sammamish Parkway road prism between East Lake Sammamish Parkway and the east side of the railbed. The wetland is associated with a ditch and drainage from a culvert on the East Lake Sammamish Parkway road prism.

Hydrology is supported by mostly structure flows discharged from the culvert. The area was saturated to the surface throughout during the January 2000 field investigation, and there was free water at 12 inches in the sample pit. Water drains from this area into a culvert and is piped to the lake.

Soil in this area is mapped as mixed alluvial land. In the wetland, the soil is black sandy loam to 9 inches overlying very dark gray (2.5Y 3/1) sandy loam. High organic matter is present in the surface layer. During the investigation, a reduced sulfur odor was present, indicating reducing conditions.

Vegetation is dominated by reed canarygrass with Himalayan blackberry on the road prism. There were a few small-fruited bulrushes and small amounts of Douglas spirea. Much of the vegetation in the wetland is buried beneath yard debris.

Adjacent upland vegetation includes dense Himalayan blackberry thickets and areas with reed canarygrass. A few red alder seedlings occur intermittently. Soils are very dark grayish-brown (10YR 3/2) without mottles, and no indicators of hydrology are present outside of the wetland boundary.

Wetland 28B was delineated based on soil and hydrology indicators. Dominant vegetation extends outside of the wetland and was not useful for delineation.

Wetland 27A

Sub-basin: Monohon

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plot: 9

Stations: 428.3 to 430.5

Area Within the Study Area: 0.144 Acre

Wetland 27A is located on the west side of the railbed near Louis Thompson Road. The wetland appears to extend west outside the study area to the lake. An unnamed stream flows through the wetland in an excavated ditch. The wetland begins at the base of a large rock wall retaining the railbed. For most of the area, the ditch parallels the base of the rock wall. At the southern property boundary, the ditch turns west and drains the stream to the lake.

Wetland hydrology primarily results from a seasonally high groundwater table with throughflow and overbank flow from the stream contributing. During the December 1999 field investigation, small extents of surface water were present. Free water was found from 0 to 12 inches below the surface throughout the area.

Soil in this area is mapped as mixed alluvium. The soil in the wetland is a mixture of native materials, side-cast from the ditch, and fill materials. A shallow, very dark grayish-brown (10YR 3/2) sandy loam is underlain by dark gray (2.5Y 4/1) sand with mottles of dark yellowish-brown (10YR 4/6) to 6 inches. The substratum is dark gray cobbly sand with mottles. This material proved too cobbly to dig beyond 12 inches.

The wetland vegetation is a mixture of weedy species on areas that have been disturbed, with common wetland species in less disturbed portions. In disturbed areas, Himalayan blackberry, bird's-foot trefoil, and bittersweet nightshade are dominant. A large section of the wetland has been mowed and supports mixed grasses, including bluegrass, fescue, and reed canarygrass, with lesser numbers of soft rush and an unidentified sedge. An area of side-cast soil lying adjacent to the ditch supports planted rhododendrons overrun with Himalayan blackberry and bittersweet nightshade. Other common plants include small-fruited bulrush, woolgrass, American speedwell, and watercress. Seedlings of red alder and black cottonwood are also locally common.

The upland in this area consists of fill materials for driveways or ornamental vegetation with mowed turf. Upland soil is dark brown (10YR 3/3) without mottles.

Wetland 27A was delineated using soil, vegetation, and hydrology indicators. Soil and hydrology indicators were used in areas of vegetation disturbance.

Wetlands 26A and 26C

Sub-basin: Monohon

Classification: Palustrine Emergent and Forested

Ecology Rating: Category III

City of Sammamish Rating: Class 2

Data Plots: 10 and 26B

Stations: 416.5 to 428.4

Area Within the Study Area: 1.059 Acres

Wetland 26A is associated with Zaccuse Creek and is formed in a linear trough between the east side of the railbed and East Lake Sammamish Parkway. Wetland 26C is located on the south side of Zaccuse Creek near the western edge of the study area.

A large wetland complex lies on the east side of East Lake Sammamish Parkway. This wetland appears quite extensive, encompassing approximately 5 acres. It is dominated by cattail and soft rush with some areas of sedges near East Lake Sammamish Parkway, while the north and east sections appear to be forested. Zaccuse Creek flows through this area and into a culvert beneath East Lake Sammamish Parkway.

The stream emerges for a few feet in Wetland 26A before entering a culvert and flowing partially in pipes to the lake. Wetland 26C is within the 100-year floodplain of the stream. It is likely that Wetlands 26A and 26C are hydrologically connected to the large wetland by continuous hydric soil and by a level hydrologic connection. Therefore, the wetlands are rated together. Total area is approximately 5 acres.

Hydrology in Wetland 26A results from seasonally high groundwater and local surface runoff. The streamflow is roughly perpendicular to the lay of the wetland and does not appear to greatly contribute to hydrology. During the December 1999 field investigation, water was up to 3 feet deep in portions of the wetland. In January 2000, approximately 75 percent of the area was inundated with up to 18 inches of water in the deepest locations.

Soils in the area, including the large east side wetland, are mapped as Shalcar muck and mixed alluvial lands. Soil in Wetland 26A was very dark gray mucky loamy sand to 4 inches underlain with black mucky cobbly loam to 10 inches. The wetland soil has high organic matter in the surface layer. In Wetland 26C, the soil consisted of black sandy loam with a high organic content with olive gray (5Y 4/2) sand from 12 to 18 inches. The accumulation of organic matter and low chroma indicate these were hydric soils.

Vegetation in most of Wetland 26A consists of Pacific willow trees with red osier dogwood, peafruit rose, and Himalayan blackberry in the understory. Douglas spirea, lady fern, soft rush, scouring rush, and small-fruited bulrush are locally dominant. Also present are other willow shrubs and Oregon ash saplings. Cattails occur in the center of the trough. Portions of this wetland are impacted by yard waste dumping. In Wetland 26C, vegetation is a mixture of weedy plants and wetland plants. Dominant species include bentgrass, velvetgrass, reed canarygrass, and creeping buttercup. Himalayan blackberry is dominant in some portions.

Upland vegetation consists of mowed turf on fill areas, and vegetable and flower gardens. Much of the adjacent area is fill material for road and parking areas.

Wetlands 26A and 26C were delineated using soil, hydrology, and vegetation.

Wetlands 25C, 25D, and 25F

Sub-basin: Thompson

Classification: Palustrine Scrub-Shrub and Emergent

Ecology Rating: Category III

City of Sammamish Rating: Class 2

Data Plots: 11, 12, and 13

Stations: 405.2 to 408.85

Area Within the Study Area: 0.391 Acre

Wetlands 25C, 25D, and 25F are associated with Ebright Creek. Wetlands 25C and 25D are on opposite sides of the railbed, and Wetland 25F lies just north of Wetland 25C on the east side. Wetlands 25F and 25C are both narrow, long troughs formed between the railbed and East Lake Sammamish Parkway. Wetland 25D is between a driveway and the west side of the railbed. In addition, approximately 3 acres of emergent and shrub wetland lies outside the study area, opposite East Lake Sammamish Parkway from these wetlands. These wetland areas were rated together because they are likely to be connected by continuous hydric soils.

Ebright Creek flows from the east through the large east side wetland and into a culvert beneath East Lake Sammamish Parkway and crosses the north end of Wetland 25F. Water from Wetland 25C flows north via a ditch adjacent to Wetland 25F and into Ebright Creek, while water from Wetland 25F flows directly to the stream. During the November and December 2000 field investigation, sockeye salmon were observed in Ebright Creek entering the culvert beneath East Lake Sammamish Parkway.

Hydrology in the wetland results mainly from a seasonally high groundwater table and partially from local area runoff. The streamflow is perpendicular to the lay of the wetland and does not appear to contribute much throughflow or overbank flow to the wetland. During the December 1999 field investigation, Wetlands 25C and 25D were inundated with up to 8 inches of standing water. Wetland 25F was saturated to the surface during December and January with water flowing in the roadside ditch into the stream.

Soil in the area is mapped as mixed alluvial land. Soil in Wetland 25F is sandy near the stream and is a silt-rich organic soil in the center of the wetland; also present are small areas of ditch side-cast material. Soil in Wetland 25D is black gravelly sandy loam with mottles to 16 inches. In Wetland 25C, surface soil is black, organic rich sandy loam to 6 inches overlying 3 inches of very dark grayish-brown (10YR 3/2) silt. Below 9 inches the soil has low chroma and is dark gray (10YR 4/1) silt with dark yellowish-brown (10YR 3/4) mottles. Wetland 25F has soil similar to Wetland 25C, but the subsoil has cobbles starting at 6 inches. Low chroma colors, mottles, and accumulations of organic material indicate these have hydric soils.

Wetland 25D has mowed turf dominated by bluegrass and creeping buttercup. Vegetation in Wetlands 25C and 25F is similar and is dominated by reed canarygrass and red alder with small-fruited bulrush and Douglas spirea. Also present in smaller amounts are red osier dogwood, giant horsetail, lady fern, and Himalayan blackberry. Portions of the wetland vegetation are buried by yard waste.

Adjacent upland areas are generally fill materials for road beds, driveways, and structures. Vegetation is mainly ornamental trees and shrubs and mowed turf.

Wetlands 25C, 25D, and 25F were delineated using soil, vegetation, and hydrology indicators.

Wetlands 25A and 25B

Sub-basin: Monohon

Classification: Palustrine Scrub-Shrub and Forested

Ecology Rating: Category III

City of Sammamish Rating: Class 2

Data Plots: 14 and 15

Stations: 396.8 to 404.8

Area Within the Study Area: 0.582 Acre

Wetlands 25A and 25B are linear troughs on the east side of the railbed and are associated with Tributary number 0150A. The wetlands are located across East Lake Sammamish Parkway from King County's inventoried East Lake Sammamish Wetland 64. This approximately 4.0-acre wetland is rated Class 2. In 1980, the County described it as prior pasture reverting to wetland. Recent observations indicate the wetland is dominated by emergent and shrub wetland vegetation.

Tributary number 0150A flows through *Wetland Number 64* and into a culvert beneath East Lake Sammamish Parkway to emerge in Wetland 25A. The stream flows south through approximately half of the wetland's length, then enters a culvert beneath the railbed and is piped to the lake. Water from Wetland 25B flows south into a culvert and joins with the stream in Wetland 25A.

During the December 1999 field investigation, approximately 90 percent of the wetland area of the wetlands were inundated with up to 36 inches of water. Soils were saturated to the surface in the remaining portions. The stream and the ditches in the wetlands were flowing.

Soil in the area is mapped as Norma sandy loam. The soil in Wetland 25A was very dark gray mucky silt loam to 5 inches underlain by dark gray silt loam. The subsoil at 15 inches is very dark gray (5Y 3/1) sandy loam. Wetland 25B has very dark gray mucky fine sandy loam to 12 inches. These soils have low chroma and organic matter accumulation, indicating hydric soils.

Tall willows and twinberry dominate vegetation in Wetland 25A, with reed canarygrass, Himalayan blackberry, peafruit rose, yellow iris, and small-fruited bulrush in portions of the understory. Duckweed is prevalent throughout the inundated area. The forested vegetation in Wetland 25B is dominated by Oregon ash with red osier dogwood, twinberry, and scouring rush in the understory.

Adjacent upland vegetation consists of ornamental trees and shrubs and mowed turf. Some adjacent areas appear to be on fill and support driveways and parking areas.

Wetlands 25A and 25B were delineated based on vegetation, soil, and hydrology indicators.

Wetland 24D

Sub-basin: Pine Lake

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plot: 17

Stations: 385.1 to 385.7

Area Within the Study Area: 0.030 Acre

Wetland 24D is on the west side of the railbed. The wetland is a small depression and low swale connecting to the lake in an area that is largely fill materials. Most of the wetland is outside of the study area. The wetland is rated Class 3 because it is less than 1 acre and has one vegetation class.

Wetland hydrology is supported by groundwater discharge through the railbed from Wetland 24C. During the December 1999 field investigation, water was at the soil surface and the wetland area had saturated soils.

Soil in the area is mapped as Kitsap silt loam and Seattle muck. Soil in the wetland appears to be partially fill, but has high organic matter to 12 inches. The high organic matter indicates that it is a hydric soil. The subsoil is very dark gray gravelly loamy sand.

Vegetation consists of reed canarygrass and purple loosestrife. Also present are Himalayan blackberry and scouring rush and soft rush.

Adjacent vegetation consists of reed canarygrass, mixed weedy grasses, forbs, and Himalayan blackberry.

Wetland 24D was delineated based on the presence of hydric soil, wetland hydrology, and wetland vegetation.

Wetlands 24A, 24B, 24C, and 23C

Sub-basin: Pine Lake

Classification: Palustrine Forested and Scrub-Shrub

Ecology Rating: Category III and II (Wetlands 24A, 24B, and 24C)

City of Sammamish Rating: Class 2

Data Plots: 16, 18, 19, 68, 24E-1

Stations: 374.3 to 386.5

Area Within the Study Area: 1.265 Acres

Wetlands 24A, 24B, 24C, and 23C are associated with Pine Lake Creek. King County's East Lake Sammamish Wetland 65 is mapped as occurring on both the east and west sides of East Lake Sammamish Parkway and appears to include Wetlands 24A through 24C and 23C. *King County Wetland Number 65* is estimated to be 7.5 acres in size, is mainly forested, and is thus rated by King County as Class 2.

Pine Lake Creek drains into the southern end of Wetland 24A on the east side of the railbed, and then crosses beneath the railbed to the southern end of Wetland 24B. Tributary number 0155 drains into the north end of Wetland 24B. Wetland 24C lies north of Wetland 24A and drains south to Pine Lake Creek. Wetland 23C lies south of Wetland 24A and drains north to the creek. During the December 1999 field investigation, most of the wetland area was inundated with up to 18 inches of water. Free water was between 0 and 12 inches below the surface throughout the remaining areas.

Soil in the area is mapped as Seattle muck. Soil in the wetland is very dark gray mucky silt loam or mucky sandy loam in the surface to about 6 inches. The subsoil has generally coarse textures with gravelly sandy loam or sandy loam. Soils in the central portion of Wetland 24B appear to be entirely organic. Low chroma and accumulations of organic material indicate hydric soils.

Vegetation in Wetlands 24B, 23C, and the southern lobe of 24C is forested with Pacific willow and black cottonwood. Sitka willow, red osier dogwood, and red alder and black cottonwood saplings occur in the understory. Also present in the understory are Himalayan blackberry, reed canarygrass, soft rush, lady fern, salmonberry, and horsetail. Wetland 24A has primarily shrub vegetation with Sitka and Pacific willow and Himalayan blackberry dominant. Also present are locally dominant areas of peafruit rose and twinberry. In the understory are small-fruited bulrush and reed canarygrass. Cattails and different leaved water-starwort are present.

Adjacent upland areas are dominated by Himalayan blackberry with reed canarygrass or ornamental vegetation.

Wetlands 24A, 24B, 24C, and 23C were delineated based on the presence of hydric soil, wetland hydrology, and wetland vegetation.

Wetland 23B

Sub-basin: Monohon

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plot: 21

Stations: 370.9 to 372.3

Area Within the Study Area: 0.066 Acre

Wetland 23B is located on the west side of the railbed. The wetland is formed on a steep slope that leads directly to the lakeshore.

Wetland hydrology is maintained by groundwater discharge and a seasonally high groundwater table. Water in the wetland was at 4 inches in the soil excavation, and most of the area had soil saturated to the surface during the December 1999 field investigation.

Soil in the area is mapped as Alderwood gravelly sandy loam. The soil in the wetland is very dark gray (7.5YR 3/1) mucky gravelly sand loam to 6 inches overlying very dark gray gravelly sandy loam to 12 inches. The odor of reduced sulfur was present in the soil, indicating hydric soil conditions.

Wetland vegetation is dominated by horsetail and small-fruited bulrush. Also present are reed canarygrass and Himalayan blackberry.

The adjacent upland predominantly has ornamental vegetation or houses on fill.

Wetland 23B was delineated based on the presence of hydric soil, wetland hydrology, and wetland vegetation.

Wetland 23A

Sub-basin: Monohon

Classification: Palustrine Forested

Ecology Rating: Category III

City of Sammamish Rating: Class 2

Data Plot: 20

Stations: 369.2 to 371.4

Area Within the Study Area: 0.136 Acre (all)

Wetland 23A is formed on the slopes along the east side of the railbed leading down from the parkway. The wetland is a long, narrow shape that includes both portions of the top of the hillslope, the slope face, and the ditch at the edge of the railbed.

Wetland hydrology is maintained by groundwater discharge and a seasonally high groundwater table. Free water in the soil excavation during the December 1999 field investigation was 5 inches below the surface. Soils were saturated to the surface, and water was flowing south in the ditch.

Soil in the area is mapped as Alderwood gravelly sandy loam. Soil in the wetland is very dark gray gravelly loam to 5 inches underlain by very dark gray gravelly sandy loam to 16 inches. The low chroma and an odor of reduced sulfur indicate hydric soils.

Wetland vegetation is primarily forested with a small area of emergent vegetation. The overstory is dominated by black cottonwood and an unidentified deciduous tree (possibly an escaped ornamental hawthorn). In the understory are slough sedge, scouring rush, lady fern, and Himalayan blackberry. Reed canarygrass dominates along the ditch.

Adjacent upland vegetation is mainly ornamental, but weedy species such as Himalayan blackberry and reed canarygrass are also common. Adjacent upland soils are sandy loams with bright chroma (10YR 4/4).

Wetland 23A was delineated based on the presence of hydric soil, wetland hydrology, and wetland vegetation.

Wetland 22C/D

Sub-basin: Monohon

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Not Rated

Data Plot: 69, 22AN-2, 22AN-3

Stations: 365.5 to 368.2

Area Within the Study Area: 0.179 Acre (all)

Wetland 22C/D is located on the east side of the railbed adjacent to the base of the East Lake Sammamish Parkway road prism. Wetlands 22C and 22D were previously small areas separated by upland. With newly added area, these two are now a single wetland. The area is vegetated with newly established emergent vegetation surrounded by mowed turf. The wetland is not rated because it is less than 2,500 square feet.

Wetland hydrology results from groundwater discharge from the toe of the road prism. Water drains to a ditch near the railbed, then enters a culvert and is piped to the lake. Soils were saturated to the surface throughout the areas, and free water entered the pit at 6 to 12 inches.

Soil in the area is mapped as Alderwood gravelly sandy loam but was actually fill material consisting of gravelly sandy loam and gravelly sand. Hydric soil indicators included dark matrix colors (10YR 2/1) and faint or distinct redoximorphic features.

Wetland vegetation included mowed grasses for some portions. Other unmowed areas had small portions of velvetgrass, soft rush, and reed canarygrass.

The adjacent upland vegetation is mowed turf.

Wetland 22C/D was delineated based on the presence of hydric soil and wetland hydrology. Vegetation was not used as an indicator because it is mowed turf and is not likely to reflect present hydrologic conditions.

Wetland 22A/B

Sub-basin: Monohon

Classification: Palustrine Scrub-Shrub

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plots: 22 and 56

Stations: 358.5 to 364.3

Area Within the Study Area: 0.419 Acre

Wetland 22A/B is located on the east side between the railbed and the East Lake Sammamish Parkway road bed and fill. The wetland includes a ditch and a small tributary. A large forested wetland lies on the east side of East Lake Sammamish Parkway, which is not in the project right-of-way. The wetland flows into a culvert beneath East Lake Sammamish Parkway, is free flowing in the right-of-way, then enters a second culvert beneath the railbed and is piped to the lake. Some of the flow enters a ditch at the railbed and flows through Wetland 22A/B before entering a third culvert to be piped to the lake. The north end is mostly a flat area, while the south end is a narrow portion along the fill slope. The tributary flows from East Lake Sammamish Parkway, across the fill pad, down the fill slope, and to the ditch, where it is piped to the lake.

Wetland hydrology results from a high groundwater table and groundwater discharge and is supplemented by local runoff and throughflow. The ditches and streams were flowing during December and January 1999. Inundation was present in 20 percent of the area in December. Water was at the surface in the soil pit. In January 2003, soils were saturated to the surface in most of the area, and free water was flowing into a soil pit at approximately 12 inches below the surface. The area of excavated ditch was nearly overflowing to the railbed during this time.

Soil in the area is mapped as Alderwood gravelly sandy loam. In the wetland, the organic soil is very dark gray sapric material to at least 17 inches. A reduced sulfur odor was present. The presence of an organic soil and reduced sulfur are evidence of hydric soil conditions.

Vegetation in the north end consists of willow, red alder, red osier dogwood, twinberry, mowed grass, and reed canarygrass. Small portions are forested with Pacific willow and black cottonwood, with Himalayan blackberry in the understory. The south end is dominated by Himalayan blackberry and salmonberry with cattails emerging through the shrubs. Reed canarygrass is dominant along the ditch. Planted trees, including western red cedar and ornamental cherry, are present in the mowed area.

Adjacent upland areas are fill slopes with Himalayan blackberry and reed canarygrass. Upland areas to the north contain fill, probably side-cast from ditch excavation. No wetland hydrology or hydric soil characteristics were observed.

Wetland 22A/B was delineated based on the presence of hydric soil and wetland hydrology. Vegetation extends across the wetland boundary in several locations and was not used.

Wetlands 21C and 21D

Sub-basin: Monohon

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plot: None

Stations: 354.9 to 357.9

Area Within the Study Area: 0.294 Acre (estimated)

Wetlands 21C and 21D are located on the east and west sides of the railbed. The wetlands lie in the study area but were not delineated because access was not available. In this general area, the NWI shows palustrine forested wetland. The area was determined to be wetland based on observations made from the railbed, and this determination would need to be verified if project impacts occur in this vicinity.

Wetland hydrology is supported by groundwater discharge, seasonally high groundwater, and throughflow. In Wetland 21D water flows down a slope and along the perimeter of a fill pad, then parallels the railbed, entering a culvert at the south end. Water from Wetland 21C drains directly via overland flow to the lake.

Soil in the area is mapped as mixed alluvial lands; however, soil observations were not possible from the railbed.

Most of the area is mowed turf, with sedges and creeping buttercup present in patches. A dense patch of unmowed emergent vegetation occurs in the north portion of Wetland 21D near the railbed. Wetland 21C has many large tree stumps and hummocky topography.

Wetland 21A

Sub-basin: Monohon

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plot: None

Stations: 353.3 to 354.2

Area Within the Study Area: 0.046 Acre

Wetland 21A is located on the west side of the railbed. The eastern boundary is at the toe of the railbed.

Wetland hydrology is maintained by groundwater discharge. The wetland area drains directly to the lake via surface flow. Soils were saturated to the surface, with free water 8 inches below the surface during the January 2000 field investigation.

Soil in the area is mapped as mixed alluvial lands. Wetland soil was black silt to 8 inches with high organic content overlying dark gray fine sands with mottles. Low chroma and accumulation of organic matter indicate this is a hydric soil.

Wetland vegetation is mowed turf and ornamental shrubs. Also present in patches are unidentified sedges, small-fruited bulrush, and Himalayan blackberry. A hedge of salmonberry, which has been pruned, lines the toe of the railbed.

Adjacent upland areas are well-maintained ornamental trees, shrubs, and vegetation on fill.

Wetland 21A was delineated based on the presence of hydric soil and wetland hydrology.

Wetland 21B

Sub-basin: Monohon

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plot: 54

Stations: 353.1 to 354.3

Area Within the Study Area: 0.056 Acre

Wetland 21B is located in a natural drainage adjacent to the east side of the railbed. A ditch flowing north along the study area enters the south portion of the wetland. The area narrows to a point where the ditch enters a culvert beneath the railbed.

Wetland hydrology is maintained by groundwater discharge, throughflow, and some local area runoff. Free water in the soil pit was at 12 inches, soils were saturated to the surface, and the stream and ditch were flowing during the January 2000 field investigation.

Soil in the area is mapped as mixed alluvial lands. Soil in the wetland is black silt to 16 inches with high organic matter content. Low chroma and accumulation of organic matter indicate this is a hydric soil.

Wetland vegetation consists of reed canarygrass, creeping buttercup, and horsetail. The southeast corner has shrub vegetation dominated by salmonberry and red alder saplings.

Adjacent upland forest areas are dominated by red alder and black cottonwood. In the understory are swordfern, Himalayan blackberry, and salmonberry. Adjacent soils are either fill material or are dark brown (10YR 3/3) sandy loam to 4 inches over dark yellowish-brown (10YR 4/4) gravelly loamy sand.

Wetland 21B was delineated based on the presence of hydric soil, wetland hydrology, and wetland vegetation.

Wetland 20A

Sub-basin: Monohon

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plot: 53

Stations: 350.2 to 352.5

Area Within the Study Area: 0.044 Acre (all)

Wetland 20A is located on the east side of the railbed along a steep slope adjacent to the railbed.

Hydrology is supported by groundwater discharge. Water flows north in the railbed ditch and also flows west through a culvert to Wetland 20B. Along the steepest part of the slope, soils were saturated at 8 inches. Near the base of the slope, free water was at the surface in the soil excavations and the ditches were flowing during the January 2000 field investigation.

Soil in the area is mapped as mixed alluvial lands. Soil in the wetland is very dark grayish-brown cobbly sandy loam with common dark yellowish brown mottles to 16 inches. Low chroma, mottles, and a reduced sulfur odor indicate this is a hydric soil.

Wetland vegetation consists of English ivy that hangs over the slope face from the upland area above. Little of the ivy is rooted in the wetland. Lady fern and horsetail form the herbaceous layer under the ivy.

Adjacent areas are dominated by Douglas-fir, red alder, and black cottonwood. In the understory are swordfern and Himalayan blackberry. Adjacent soils are either fill material or are dark brown (10YR 3/3) sandy loam to 4 inches over dark yellowish-brown (10YR 4/4) gravelly loamy sand.

Wetland 20A was delineated based on the presence of hydric soil, wetland hydrology, and wetland vegetation.

Wetland 20B

Sub-basin: Monohon

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plot: 52

Stations: 349.6 to 350.4

Area Within the Study Area: 0.036 Acre

Wetland 20B is located on the west side of the railbed along a slope draining to the lake.

Wetland hydrology is maintained by groundwater discharge and throughflow drainage from a small culvert. Soils were saturated at 4 inches and free water was at 13 inches during the January 2000 field investigation.

Soil in the area is mapped as mixed alluvial lands. Soil in the wetland is very dark gray sandy loam with common dark yellowish brown mottles to 10 inches overlying gray sandy loam with mottles to 16 inches. Low chroma, mottles, and a reduced sulfur odor indicate this is a hydric soil.

Wetland vegetation consists of mowed grasses. Also present are woolgrass and an unidentified sedge. Small-fruited bulrush is evident and being mowed in wetland.

Adjacent upland areas are on fill with ornamental vegetation, or native soils vegetated with Douglas-fir, red alder, and black cottonwood in the overstory, and swordfern and Himalayan blackberry in the understory. Adjacent native soils are dark brown (10YR 3/3) sandy loam to 4 inches over dark yellowish-brown (10YR 4/4) gravelly loamy sand.

Wetland 20B was delineated based on the presence of hydric soil and wetland hydrology. Vegetation was not used for delineation because it is mowed turf and not likely to reflect present hydrologic conditions.

Wetland 19A

Sub-basin: Monohon

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plot: 50

Stations: 345.1 to 347.5

Area Within the Study Area: 0.040 Acre (all)

Wetland 19A is located on the east side of the railbed along a slope. The northern portion of the wetland has been filled with landscape bark.

Wetland hydrology is supported by groundwater discharge. Approximately 5 percent of the area was inundated, free water was 5 inches below the surface in the soil excavation, and the area had soils saturated to the surface during the January 2000 field investigation. Oxidized rhizospheres were present to 8 inches in the soil.

Soil in the area is mapped as mixed alluvial lands. Soil in the wetland is black (10YR 2/1) silt loam to 5 inches overlying very dark gray (10YR 3/1) gravelly sandy loam to 18 inches. Low chroma indicates this is a hydric soil.

Wetland vegetation consists of mowed grasses and weedy forbs, including creeping buttercup. Other species present include Oregon ash, English ivy, soft rush, small-fruited bulrush, and red alder.

Adjacent uplands are filled areas with ornamental vegetation.

Wetland 19A was delineated based on the presence of hydric soil and wetland hydrology. Vegetation was not used for delineation because existing vegetation is dominated mowed lawn and may not reflect hydrologic conditions present on the site.

Wetland 19B

Sub-basin: Monohon

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plot: 51

Stations: 344.5 to 347.2

Area Within the Study Area: 0.147 Acre

Wetland 19B is located on the west side of the railbed, along a bench that drains to the lake.

Wetland hydrology is supported by groundwater discharge. Soils were saturated at the surface and free water was at 8 inches during the January 2000 field investigation.

Soil in the area is mapped as mixed alluvial lands. Soil in the wetland is black sandy loam to 10 inches, overlying very dark grayish-brown loamy sand with mottles to 16 inches. Low chroma and mottles indicate this is a hydric soil.

Wetland vegetation consists of mowed grasses and Himalayan blackberry. Also present in patches are an unidentified sedge, soft rush, and creeping buttercup.

Adjacent upland areas are on fill soil with ornamental vegetation.

Wetland 19B was delineated based on the presence of hydric soil and wetland hydrology. Vegetation was not used for delineation because existing vegetation is mowed lawn and may not reflect hydrologic conditions present on the site.

Wetland 18C

Sub-basin: Monohon

Classification: Palustrine Scrub-Shrub

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plot: 43

Stations: 328.1 to 329.0

Area Within the Study Area: 0.038 Acre (all)

Wetland 18C is located on the east side of the railbed in a deep trough formed between the base of the railbed and the toe of a long, steep hillslope. The railbed in this area is built up on the historical lake edge and is currently approximately 60 feet higher than the natural grade. The wetland is bounded to the north and south by residential yards.

Wetland hydrology results from local area runoff, a seasonally high groundwater table, and groundwater seeps along the toe of slope. Approximately 30 percent of the area was inundated during the January 2000 field investigation. We found no evidence of defined inlets or outlets; therefore, the wetland appears to be isolated.

Soil in this area is mapped as mixed alluvial lands. Soil in the wetland is very dark grayish-brown fine sand with dark reddish brown mottles to 12 inches. The subsoil is fine sandy loam to 18 inches.

The wetland is dominated by shrub vegetation. Dominant species are Oregon ash saplings, Pacific ninebark, vine maple, and Himalayan blackberry. Also present are scouring rush and lady fern in the understory. A few Oregon ash trees are greater than 20 feet high and emerge over the shrub canopy. Large Douglas-fir, western red cedar, and beaked hazelnut grow on the slope and shade the margins of the wetland.

Adjacent vegetation is either natural forest or residential landscaping and gardens. Native forest includes western red cedar, Pacific madrone, and Douglas-fir with ivy, salal, Himalayan blackberry, and mixed grasses in the understory. Upland soils are either fill or mixed gravels, with bright matrix colors and no mottles.

Wetland 18C was delineated based on the presence of hydric soil, wetland hydrology, and wetland vegetation.

Wetlands 15A, 15B, and 15C

Basin: Monohon South

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plots: 39, 40, and 41

Stations: 312.8 to 316.2

Area Within the Study Area: 0.118 Acre

Wetlands 15A, 15B, and 15C are located just south of SE 26th Street along the east and west sides of the rail grade. The local topography is a long, gentle hillslope to the lake edge. Houses line the crest of the hill. Two small streams drain down the slope into a single ditch at the toe of the railbed. This ditch then drains north and turns west beneath the railbed and flows to the lake. Most of the project area is residential landscaped yards.

There are three discontinuous sections of the wetland, which are mapped as 15A, 15B, and 15C. Wetland 15A lies on the terrace starting from the western toe of the railbed, extending to the lake edge, then north and south across three parcels. Wetlands 15B and 15C are on the east side of the railbed and include portions of the hillslope lying above the railbed. An area of fill separates these two wetlands.

Wetland hydrology primarily results from groundwater expression in several locations along the hillslope. Local area runoff, overbank flow, and throughflow also contribute water to these wetlands. During the January 2000 field investigation, approximately 20 percent of the area was inundated, while the remainder of the wetland area was saturated to the surface. There was free water from 3 to 12 inches below the surface in soil excavations. Both of the streams were flowing to the lake.

Soil in this area is mapped as non-hydric Alderwood gravelly sandy loam; however, this soil was not confirmed in the wetland. The wetland soil is organic with 20 inches or more consisting of partially degraded dark brown or black plant fibers. In some locations, the surface layer is shallower and is underlain by gray loamy sand or silt loam.

Wetland 15A vegetation is predominantly mowed turf. One small area in this section contains emergent vegetation dominated by reed canarygrass and giant horsetail with trace amounts of Himalayan blackberry. Also, a patch of slough sedge and salmonberry grows beneath young western red cedar trees along the northernmost edge of the stream bank. Watercress is abundant in the stream. Young Oregon ash, California coastal redwood, and black cottonwood trees grow along the property lines perpendicular to the railbed.

Vegetation in Wetlands 15B and 15C is predominantly emergent with patches of planted trees and shrubs. Purple loosestrife, reed canarygrass, small-fruited bulrush, and giant horsetail dominate the emergent vegetation. Also present are soft rush, yellow iris, lady fern, western bitter-cress, and Watson's willowherb. The planted trees and shrubs include a single mature aspen, several corkscrew willow trees, and small amounts of Himalayan blackberry and salmonberry. Abundant in the stream are different leaved water-starwort, watercress, and duckweed.

Upland in this area consists of well-drained gravelly sandy loam with bright matrix colors (10YR 3/3 and 3/4). Some small areas appear to have been filled in the past. Vegetation consists of ornamental trees, shrubs, and mowed turf.

The wetland was delineated using soil, hydrology, and vegetation criteria. In areas with mowed turf, vegetation was not used; only soils and hydrology indicators were used.

Wetland 12A

Sub-basin: Monohon South

Classification: Palustrine Forested

Ecology Rating: Category III

City of Sammamish Rating: Class 2

Data Plot: 37

Stations: 239.5 to 241.5

Area Within the Study Area: 0.114 Acre (all)

Wetland 12A is located between East Lake Sammamish Parkway and the railbed. A large wetland draining to Tributary number 0163 lies on the east side of East Lake Sammamish Parkway and drains via several culverts into a ditch lying south of Wetland 12A. Wetland 12A drains south into the ditch as well.

Wetland hydrology is maintained by groundwater seeps with local area runoff. During the December 1999 field investigation, ponded water was present within 50 percent of the area. The remaining portions of the wetland were saturated to the surface.

Soil in the area is mapped as Kitsap silt loam. The soil is black (10YR 2/1) gravelly sandy loam to 7 inches underlain by black and dark gray (5Y 4/1) very fine sandy loam with common distinct mottles of dark brown (10YR 3/3).

Vegetation in the wetland is dominated by red alder and Pacific willow in the overstory and reed canarygrass, Himalayan blackberry, and giant horsetail in the understory. Hybrid willows are the dominant shrubs, with Himalayan blackberry, reed canarygrass, and giant horsetails dominant in the understory. Also growing are red osier dogwood and red alder saplings. The forested areas have red alder trees and Pacific willow, with Himalayan blackberry and reed canarygrass in the understory.

Upland vegetation in the area is dominated by Himalayan blackberry with a few red alder trees. Some areas are mowed turf or have ornamental trees and shrubs.

Wetland 12A was delineated based on the presence of hydric soil, wetland hydrology, and wetland vegetation.

Wetland 13A

Sub-basin: Monohon

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plot: None

Stations: 222.0 to 231.9

Area Within the Study Area: 0.455 Acre

Wetland 13A is located along the east side of the railbed. The northern quarter of the wetland is formed in a topographical depression along the base of East Lake Sammamish Parkway. The majority of the wetland occurs on the steep hillslope leading up to East Lake Sammamish Parkway, with active seeps that discharge to an unmaintained ditch along the railbed.

Wetland hydrology is dominated by groundwater seeps. During the December 1999 field investigation, approximately 50 percent of the area was inundated with up to 8 inches of water. The remaining portions of the wetland were saturated to the surface. Water was flowing south in the ditch at the base of the railbed into a culvert beneath the railbed.

Soil in the area is mapped as Kitsap silt loam. Soils in the seep areas are dark gray (2.5Y 4/1) silty clay loam overlying dark greenish-gray (5G 4/1) gleyed silty clay loam with prominent mottles of dark yellowish-brown (10YR 4/4).

Wetland vegetation is dominated by reed canarygrass, with Himalayan blackberry along the margins of the wetland. Also present are small-fruited bulrush, woolgrass, and soft rush and cattails. A few black cottonwood and Oregon ash saplings and seedlings occur scattered throughout the site. The north and south ends of the wetland are shrub-dominated with Pacific willow and red alder saplings. Lady ferns and horsetail occur in the understory.

Upland vegetation in this area is forested with young red alder trees or is mowed turf.

Wetland 13A was delineated based on the presence of hydric soil, wetland hydrology, and wetland vegetation.

Wetlands 14A and 14C

Sub-basin: Monohon

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plot: 28 and 75

Stations: 216.0 to 220.0

Area Within the Study Area: 0.128 Acre

Wetlands 14A and 14C are located in a trough between East Lake Sammamish Parkway and the railbed and are separated by a driveway. An intermittent stream drains from the steep slopes on the east side of East Lake Sammamish Parkway into a culvert, crosses beneath the road, and empties into the north end of Wetland 14A. The stream drains south through the wetland, then flows west via a culvert beneath the railbed. Wetland 14C drains south through a ditch to join the stream in Wetland 14A.

Wetland hydrology is maintained by seasonally high groundwater, throughflow, and overbank flow. During the December 1999 field investigation, 30 percent of the wetland area was inundated with up to 12 inches of water. Remaining portions of the wetland had soils saturated to the surface. Water was flowing in the streams and ditches.

Soil in the area is mapped as Kitsap silt loam. In Wetland 14A, the very dark gray (10YR 3/1) silt loam is high in organic matter to 4 inches underlain by very dark gray gravelly loam to 14 inches. In Wetland 14C, the dark gray sandy loam has large, dark greenish-gray mottles.

Vegetation in Wetland 14A is dominated by reed canarygrass with locally scattered patches of cattail. Himalayan blackberry dominates along the margins of the wetlands. In Wetland 14B, emergent vegetation includes soft rush, cattail, small-fruited bulrush, woolgrass, and reed canarygrass.

Upland in this area is dominated by Himalayan blackberry or maintained ornamental plantings.

Wetlands 14A and 14C were delineated based on the presence of hydric soil, wetland hydrology, and wetland vegetation.

Wetland 14B

Sub-basin: Monohon

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Sammamish Rating: Class 3

Data Plot: 75

Stations: 217.6 to 218.5

Area Within the Study Area: 0.020 Acre (all)

Wetland 14B is located on the west side of the railbed, along a short slope that drains to the lake. There is a 10-foot-wide driveway lying parallel to the toe of slope that separates this groundwater discharge wetland from an undelineated wetland (outside the study area) along the lakeshore.

Wetland hydrology is maintained by groundwater discharge. Soils were saturated to the surface and free water was 6 inches below the surface during the January 2000 field investigation. Surface water was draining from the wetland, down the short slope, and across the driveway to the adjacent wetland.

Soil in the area is mapped as Kitsap silt loam. In Wetland 14B, the very dark gray (10YR 3/1) silt loam is high in organic matter to 4 inches, underlain by very dark gray gravelly loam to 14 inches. The soil has low chroma and an accumulation of organic matter, indicating that it is hydric.

Wetland vegetation is largely composed of mixed emergents, including small-fruited bulrush, soft rush, bentgrass, and bluegrass, and includes a small flower garden. Also present in patches are unidentified sedge, cattail, and creeping buttercup. In the flower garden grow soft rush, tapertip rush, and an unidentified sedge.

Adjacent uplands contain filled areas with ornamental vegetation and impervious surfaces.

Wetland 14B was delineated based on the presence of hydric soil and wetland hydrology. Vegetation was not used for delineation because existing vegetation is turf or landscaped garden and may not reflect hydrologic conditions present on the site.

Wetlands 3A, 3B, 3C, 3D, and 3E

Sub-basin: Monohon

Classification: Palustrine Forested

Ecology Rating: Category III

City of Issaquah Rating: Class 2

Data Plot: 27 and 76

Stations: 204.2 to 213.7

Area Within the Study Area: 1.065 Acres

Wetlands 3B and 3E are associated with Many Springs Creek and Wetland 3D is associated with a tributary to Many Springs Creek. Wetlands 3A and 3B are located west of the railbed in a broad flat depression with an outlet to the lake. Wetlands 3C, 3D, and 3E are in a linear depression formed between the railbed and the East Lake Sammamish Parkway. The wetland is rated as Class 2 because it has a forested vegetation class.

Wetland hydrology is maintained primarily by groundwater discharge in Wetlands 3C, 3D, and 3E and by seasonally high groundwater in Wetlands 3A and 3B. This hydrology is supplemented by surface runoff, overbank flow, and throughflow. Many Springs Creek drains from beneath East Lake Sammamish Parkway into Wetland 3E, a tributary of the stream drains into Wetland 3D, and roadway runoff flows into Wetland 3C into a culvert. All of these surfaces flows drain to a single culvert beneath the railbed and into Wetland 3B. During the January 2000 field investigation, Wetlands 3A and 3B were inundated with up to 6 inches of water.

Soil in the area is mapped as non-hydric Everett gravelly sandy loam. However, this soil was not confirmed in the wetland area. Wetland soil is a very dark grayish-brown sandy loam to 5 inches, underlain by very dark grayish brown (2.5Y 3/2) silt loam with dark yellowish-brown (10YR 4/4) mottles.

Red alder and black cottonwood trees are the dominant species in the wetland, with reed canarygrass, scouring rush, salmonberry, and dewberry in the understory. Mature Pacific willow trees are scattered throughout. Other portions of the wetland include emergent vegetation dominated by reed canarygrass with locally dominant cattail. Also present are Himalayan blackberry, small-fruited bulrush, soft rush, and manna grass.

Upland in this area is forested with young red alder trees and Himalayan blackberry, or landscaped yards.

Wetlands 3A through 3E were delineated based on the presence of hydric soil, wetland hydrology, and wetland vegetation.

Wetland 2A

Sub-basin: Laughing Jacobs Creek

Classification: Palustrine Forested

Ecology Rating: Category III

City of Issaquah Rating: Class 3

Data Plot: 26

Stations: 202.4 to 203.3

Area Within the Study Area: 0.042 Acre

Wetland 2A is located west of the railbed and south of Laughing Jacobs Creek. The wetland occurs entirely within the study area in a topographic depression defined by gravel driveways and filled areas. On the east side of East Lake Sammamish Parkway in this location, King County Wetland Inventory has mapped a wetland (East Lake Sammamish Wetland 90), which is estimated to be 5.8 acres, and apparently is associated with Laughing Jacobs Creek. Because the connection between King County's East Lake Sammamish Wetland 90 are not level, Wetland 2A was not level; Wetland 2A was separated from King County's East Lake Sammamish Wetland 90. Wetland 2A is less than 1 acre and has a forested wetland class. Therefore, it is rated as a Class 3 wetland.

Wetland hydrology results from overbank flow from Laughing Jacobs Creek and a seasonally high groundwater table. Wetland 2A does not appear to collect significant local surface water runoff. During the December 1999 field investigation, approximately 30 to 40 percent of the area was inundated with up to 8 inches of water.

Soil in the area is mapped as mixed alluvium. In the wetland, the silt loam is very dark brown (10YR 3/2) to 5 inches underlain by very dark grayish-brown (2.5Y 3/2) silt loam with dark yellowish-brown (10YR 4/6) mottles.

Wetland vegetation is dominated by Pacific willow and red osier dogwood. Upland trees form part of the overstory, providing shade, but are rooted outside the wetland. Scouring rush, manna grass, and unidentified sedge compose the understory. Also present are reed canarygrass with Himalayan blackberry along the wetland margins.

Upland vegetation in the area occurs on filled areas and consists of mixed grasses, Himalayan blackberry thickets, and a small stand of Douglas-fir trees.

Wetland 2A was delineated based on the presence of hydric soil, wetland hydrology, and wetland vegetation.

Wetlands 1A and 4F

Sub-basin: Laughing Jacobs Creek

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Issaquah Rating: Class 3

Data Plot: 25

Stations: 197.2 to 200.1

Area Within the Study Area: 0.200 Acre

Wetlands 4F and 1A are located north of the north boat ramp entrance to Sammamish State Park. Wetland 1A, adjacent to the trail on the west, is a broad, shallow topographical depression. Wetland 4F is a narrow, linear depression swale between the railbed and East Lake Sammamish Parkway. Surface water from East Lake Sammamish Parkway drains into Wetland 4F and then into Wetland 1A via a culvert.

Wetland hydrology is supported by a seasonally high groundwater table and local surface runoff. During the December 1999 field investigation, 90 percent of the area was saturated and shallow swales were inundated with up to 1 inch of water. Oxidized root zones were seen in the surface soil. Wetland 4F was inundated with up to 36 inches of water. Surface water was draining west in an undefined channel from the study area toward Lake Sammamish.

Vegetation in the wetland is dominated by reed canarygrass with giant horsetail and small-fruited bulrush. Cattails are locally dominant and occur with water-starwort, soft rush, scouring rush, sawbeak sedge, and an unidentified sedge in Wetland 4F.

Soil in the area is mapped as Sammamish silt loam. The silt loam surface soil is very dark gray (7.5YR 3/1) sandy clay loam and is 3 inches deep. The subsoil is a very dark gray silty clay loam with dark yellowish-brown mottles to 18 inches. Low chroma and mottles indicate this soil is hydric.

Adjacent areas include the boat launch parking lot and gravel driveways. Vegetation consists of ornamental plants, including coniferous trees and shrubs, and grassy areas.

Wetlands 1A and 4F were delineated based on the presence of hydric soil, wetland hydrology, and wetland vegetation.

Wetlands 4A, 4B/D, 4E, and 4G

Basin: Issaquah Creek

Classification: Palustrine Forested and Emergent

Ecology Rating: Category III and I (Wetland 4B/D)

Data Plots: 30, 24, 23, and 38

Stations: 163.7 to 196.6

Area Within the Study Area: 3.062 Acres

Wetlands 4A, 4B/D, 4E, and 4G are sections of a large wetland that covers approximately 200 acres in Sammamish State Park. The wetland is mapped by the King County Wetland Inventory as Issaquah Creek Wetland 2. It is rated as a Class 1 wetland with four vegetation classes, including forested, scrub-shrub, emergent, and aquatic bed. In addition, a second forested wetland, which the County has mapped as East Lake Sammamish Wetland 52, lies east of East Lake Sammamish Parkway and is connected via a small stream to Issaquah Creek Wetland 2. All of these wetlands form a single complex.

In the study area, Wetlands 4A and 4G compose a narrow extension of the wetland south of the park boundary. Within the park boundary, Wetland 4B/D lies on the west side, and Wetland 4E lies between the east side of the railbed and East Lake Sammamish Parkway. In total, the wetland is continuous along the study area for approximately 1,700 feet.

Issaquah Creek and at least three unnamed streams drain to the lake through the large wetland. One of the unnamed streams crosses beneath the railbed, and a second flows north into the park from the study area. Wetland hydrology is supported by precipitation, a seasonally high groundwater table, and periodic flooding of the streams. In the study area during the December 1999 and January 2000 field investigation, the wetland was almost entirely inundated. Adjacent to the railbed, depths ranged from a few inches to over 36 inches.

Soil series mapped in the large wetland include Kitsap, Bellingham, Sammamish, Sultan, and Woodinville silt loams; Puget silty clay loam; and Seattle muck. Mixed alluvial lands are mapped at the northern end of the large wetland. The soil series from south to north along the railbed includes Kitsap silt loam, Woodinville silt loam, Seattle muck, and Sammamish silt loam. Sammamish silt covers about half the area.

Soil in the area mapped as Bellingham silt loam was a dark grayish-brown (10YR 4/2) silt loam to 5 inches, underlain by gray (10YR 5/1) silt loam with yellowish-brown (10YR 5/4) mottles. Soil in the area mapped as Sammamish silt loam was a black (10YR 3/1) mucky silt loam to 5 inches, and underlain by dark gray (5Y 4/1) very fine sandy loam. Soil in the area mapped as Woodinville silt loam was very dark gray (10YR 3/1) silt loam to 5 inches, overlying dark gray (10YR 4/1) very fine sandy loam with strong brown (10YR 4/6) mottles to 18 inches. With little variation, all the locations sampled had a reduced sulfur odor and accumulations of organic matter in the surface horizons and thus are hydric.

Wetland vegetation throughout the area is predominantly thick stands of reed canarygrass. A narrow strip of shrubs and trees occurs at the western toe of the railbed and consists of Pacific and Sitka willow, Pacific crabapple, and red osier dogwood. Himalayan blackberry and reed canarygrass occur in the understory. Occasionally there is mature Oregon ash, young red alder, or a domestic apple tree. In Wetland 4E adjacent to East Lake Sammamish Parkway, reed canarygrass is again dominant, with pockets of cattail locally dominant. A few stretches of forested wetland occur at the base of the East Lake Sammamish Parkway road grade with black cottonwood, red alder, Pacific willow, and Sitka willow saplings. Standing water in streams supports small duckweed, and some locations have watercress and

different leaved water-starwort. In the southern extent of the wetland, beaver activities are resulting in some reduction of willow shrub cover.

Wetlands 4A, 4B/D, 4E, and 4G were delineated along the toe of the railbed using primarily soils and hydrology, as well as topography. Vegetation was not a useful indicator due to the prevalence of reed canarygrass. The northernmost wetland boundary of Wetland 4B/D occurs where mixed alluvial land is mapped; soils in this location vary considerably across short distances. Also, the salmonberry-dominated vegetation apparently is continuous across the wetland boundary. Therefore, this boundary was delineated primarily using wetland hydrology indicators. The upland lobe that occurs in Wetland 4B/D was delineated as upland because no hydrology indicators were identified in this area and because vegetation was a mixture of reed canarygrass and Himalayan blackberry.

Wetlands 5A and 5B

Basin: Issaquah Creek

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Issaquah Rating: Class 2

Data Plots: 31 and 74

Stations: 145.6 to 159.6

Area Within the Study Area: 1.255 Acres

Wetlands 5A and 5B are linear depressions formed along both sides of the railbed. A section of Wetland 5A formed between two fill pads perpendicular to the railbed extending west of the study area.

Tributary #1 to Lake Sammamish flows from the east beneath East Lake Sammamish Parkway and drains into Wetland 5B. This stream flows north to Sammamish State Park. Surface water also flows north out of Wetland 5A to Sammamish State Park. In addition to throughflow and overbank flow, a seasonally high groundwater table and local area runoff support hydrology. Approximately 80 percent of the area was inundated with 6 to 18 inches of water during the December 1999 field investigation.

Soil in the area is mapped as Bellingham silt loam. In the wetland, the silt loam soil is greenish gray (5GY 5/1) with strong brown (7.5YR 4/6) mottles to 18 inches deep. A strong reduced sulfur odor was present during the December 1999 field investigation.

Reed canarygrass is dominant in the wetland. Peafruit rose and Douglas spirea occur occasionally. A small forested area is dominated by red alder and hybrid and Pacific willow. Douglas spirea, red osier dogwood, salmonberry, and twinberry occur in the forested understory.

Upland in this area is developed as commercial facilities on fill. The southern end of the wetland terminates in fill adjacent to SE 56th Street.

Wetlands 5A and 5B were delineated based on the presence of hydric soil, wetland hydrology, and wetland vegetation.

Wetlands 6A and 6B

Basin: Issaquah Creek

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Issaquah Rating: Class 3

Data Plots: 72 and 73

Stations: 141.7 to 144.3

Area Within the Study Area: 0.241 Acre

Wetlands 6A and 6B are formed along both sides of the railbed. Wetland 6A occurs in a nearly level area between adjacent asphalt and the railbed, while Wetland 6B occurs in a swale between the railbed and East Lake Sammamish Parkway.

A seasonally high groundwater table and local area runoff support hydrology. Approximately 10 percent of the area was inundated with 3 to 5 inches of water during the January 2000 field investigation. Free water was at 10 inches in the soil excavation.

Soil in the area is mapped as Bellingham silt loam. In the wetlands, the very dark gray gravelly sandy loam surface soil is 12 to 15 inches deep, overlying dark gray silt loam with dark yellowish-brown mottles.

Wetland vegetation is dominated by reed canarygrass, Nootka rose, Lombardy poplar, and black cottonwood. The forest understory comprises a mixture of wetland plants and weeds, and many seedlings of wetland shrubs are present.

Upland in this area is developed as commercial facilities on fill.

Wetlands 6A and 6B were delineated based on the presence of hydric soil, wetland hydrology, and wetland vegetation.

Wetlands 7A, 8A, and 8B

Basin: Issaquah Creek

Classification: Palustrine Scrub-Shrub

Ecology Rating: Category III

City of Issaquah Rating: Class 3

Data Plots: 32, 8A, and 8B

Station: 123.8 to 135.2

Area Within the Study Area: 0.71 Acre

Wetlands 7A, 8A, and 8B are associated with Tributary #1 to the North Fork of Issaquah Creek. They are located in topographical depressions on both sides of the railbed.

The stream flows from the east into the north end of Wetland 8B from beneath East Lake Sammamish Parkway. The stream then drains west into the north end of Wetland 7A and then westward out of the study area via a constructed swale between two buildings. This tributary joins the North Fork of Issaquah Creek approximately 200 feet to the west of the study area. Wetland 8A drains north to Wetland 8B via a ditch along the study area.

Hydrology in the wetland is supported by overbank flow and throughflow from the stream, a seasonally high groundwater table, and local runoff. During the December 1999 field investigation, up to 60 percent of the wetland was inundated with up to 18 inches of water.

Soil is mapped as Bellingham silt loam. The very dark grayish-brown (10YR 3/2) silty clay loam surface soil is 5 inches deep and is underlain by dark gray (2.5Y 4/1) silty clay loam with olive brown (10YR 3/2) mottles. Subsurface soil in the southern portion of the wetland has a texture of very fine sand; this area gradually grades to upland.

Vegetation in the wetland consists of mature Pacific willow and weeping willow in the overstory, with red osier dogwood, laurel, and Nootka rose in the understory. Reed canarygrass and Himalayan blackberry are common along the railbed. Black cottonwood and red alder saplings occur in some places. Thickets of Nootka rose are locally dominant. The northern end of the wetland has a small (20- by 20-foot) area of emergent vegetation dominated by reed canarygrass with small-fruited bulrush, cattail, soft rush, and creeping buttercup near the stream. An unidentified sedge is also present in Wetland 7A.

The adjacent upland vegetation to the north consists of Himalayan blackberry and Nootka rose on fill and native soils. To the south, the adjacent upland has a shrub cover of Himalayan blackberry, red alder, and snowberry on native soils. Wetland hydrology was not indicated in these areas.

Wetlands 7A, 8A, and 8B were delineated based on the presence of hydric soil, wetland hydrology, and wetland vegetation.

Wetland 8C

Basin: Issaquah Creek

Classification: Palustrine Emergent

Doe Rating: Category III

City of Issaquah Rating: Class 3

Data Plot: 71

Stations: 128.4 to 129.7

Area Within the Study Area: 0.037 Acre

Wetland 8C is located in a shallow swale along the west side of the study area formed between a filled area and the railbed.

Wetland hydrology is supported by seasonally high groundwater. The wetland appears to have no defined inlet or outlet and thus is hydrologically isolated. During the January 2000 field investigation, surface water was ponded to half an inch on 10 percent of the area. The remaining areas were saturated to the surface. Free water was 9 inches below the surface in the sample plot.

Soil in this area is mapped as Sammamish silt loam. The soil in the wetland is very dark gray (10YR 3/1) loam to 16 inches. The low chroma indicates hydric soil conditions.

Vegetation is dominated by reed canarygrass. Creeping buttercup and bittersweet nightshade are present in small amounts. Himalayan blackberry is prevalent along the southern and northern extents. Other species include salmonberry, twinberry, and peafruit rose.

Adjacent vegetation is reed canarygrass and Himalayan blackberry. Also adjacent are piles of debris and a deteriorating parking area.

The wetland was delineated based on hydric soil and wetland hydrology. Vegetation was not useful because the reed canarygrass was continuous across the wetland boundary.

Wetlands 9A, 9B, and 10A

Basin: North Fork Issaquah Creek

Classification: Palustrine Scrub-Shrub, Forested (Wetland 9A)

Ecology Rating: Category III

City of Issaquah Rating: Class 2

Data Plots: 35 and 36

Stations: 117.7 to 122.8

Area Within the Study Area: 0.452 Acre

Wetlands 9A, 9B, and 10A are associated with the North Fork of Issaquah Creek. They are troughs located between driveways and the railbed. Wetland 9B drains directly into the stream, while Wetlands 9A and 10A flow to the creek via ditches.

Hydrology is supported by a seasonally high groundwater table and runoff from adjacent buildings and parking lots. Approximately 20 percent of the wetland areas were inundated with up to 18 inches of water. Free water was present in the soil excavation 8 inches below the surface, and the soil was saturated to the surface during the December 1999 field investigation.

Soil in the area is mapped as Sammamish silt loam. The wetland soil is black silt loam to 10 inches, underlain by dark grayish-brown (2.5Y 4/2) silty clay and silty clay loam with dark yellowish-brown (10YR 4/6) or light olive-brown (2.5Y 5/3) mottles. A reduced sulfur odor was present.

Wetland vegetation in the overstory is dominated by Pacific, Scouler's, and Sitka willow. Red osier dogwood, Himalayan blackberry, and reed canarygrass are common in the understory. Also, lady fern, snowberry, Himalayan blackberry, and reed canarygrass are locally dominant. Soft rush, Japanese knotweed, woolgrass, and small-fruited bulrush are present in scattered patches. Red alder is also present along the stream bank. Wetland 10A has an overstory of black cottonwood trees.

The upland in this area consists of fill for parking lots, driveways, and an abandoned home site with grasses, weedy forbs, and ornamental plantings.

Wetlands 9A, 9B, and 10A were delineated based on the presence of hydric soil, wetland hydrology, and wetland vegetation.

Wetland 10B

Basin: North Fork Issaquah Creek

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Issaquah Rating: Class 3

Data Plot: 70

Stations: 111.3 to 112.5

Area Within the Study Area: 0.054 Acre

Wetland 10B occurs in a linear depression on the east side of the railbed. The wetland receives water from the local surface runoff, including two adjacent commercial developments that drain to a swale perpendicular to the railbed.

Local surface runoff and a seasonally high groundwater table maintain wetland hydrology. Water in the wetland was up to 12 inches deep during the January 2000 field investigation. Water drains north via a maintained ditch to Wetland 10A.

Soil in the area is mapped as Sammamish silt loam. The wetland soil is black silt loam to 10 inches, underlain by dark grayish-brown (2.5Y 4/2) silty clay loam with dark yellowish-brown (10YR 4/6) mottles. A reduced sulfur odor was present.

Wetland vegetation is dominated by reed canarygrass and Himalayan blackberry. Shrubs of Sitka willow line the boundary between the wetland and the adjacent ornamental plantings. Lombardy poplar trees line the swale.

Adjacent upland consists of ornamental plantings on well-drained fill materials, parking areas, and the I-90 road bed.

Wetland 10B was delineated based on the presence of hydric soil, wetland hydrology, and wetland vegetation.

Wetland 10C

Basin: North Fork Issaquah Creek

Classification: Palustrine Emergent

Ecology Rating: Category III

City of Issaquah Rating: Class 3

Data Plot: 70

Stations: 102.0 to 104.6

Area Within the Study Area: 0.117 Acre

Wetland 10C is located just north of NW Gilman Boulevard in Issaquah near the southern terminus of the trail.

Water in the wetland drains north to a culvert beneath the railbed and an adjacent roadway. Water from the wetland flows to Issaquah Creek, 0.5 mile to the northwest of the area. Wetland hydrology is maintained by groundwater and local area runoff. Water was ponded to 1 inch in 20 percent of the area; the remaining portions were saturated to the surface during the January 2000 field investigation.

Soil in the area is mapped as non-hydric Everett gravelly loamy sand. This soil was not confirmed in the wetland. The organic soil in the wetland is black (10YR 3/1) muck to 16 inches below the surface. Reduced sulfur odor was present.

Wetland vegetation is dominated by reed canarygrass and Himalayan blackberry. Two large black cottonwood trees occur near the south end of the wetland by the edge of the sheep pasture. Also, peafruit rose, soft rush, and Douglas spirea are locally dominant.

A sheep pasture, driveways, and the I-90 road bed are the adjacent upland in this area.

Wetland 10C was delineated based on the presence of hydric soil, wetland hydrology, and wetland vegetation.

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